

Use Attainability Analysis

for

WBID 0860 Sewer Branch

Submitted by
Tetra Tech, Inc

To
Missouri Department of Natural Resources
Water Protection Program

Field Data Sheets for Recreational Use Stream Surveys

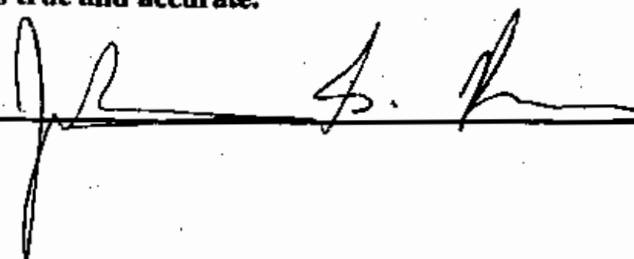
Data Sheet A - Water Body Identification

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WATER PROTECTION PROGRAM

Water Body Name: (from USGS 7.5' quad)	Sewer Branch
8-digit HUC:	10300103
Missouri WBID #:	0860
County:	Pettis
Upstream Legal Description:	
Downstream Legal Description:	74 th
Upstream Coordinates: (UGS 84, ddd.ddddd)	N 38.71859 W 93.22498
Downstream Coordinates: (UGS 84, ddd.ddddd)	N 38.74332 W 93.23769
Discharger Facility Name(s):	Homestead Trailer Park
Discharger Permit Number(s):	
Number of Sites Evaluated:	6
Name of Surveyor and Telephone Number:	JB 410-356-8993
Organization:	T+
Position:	Scientist

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

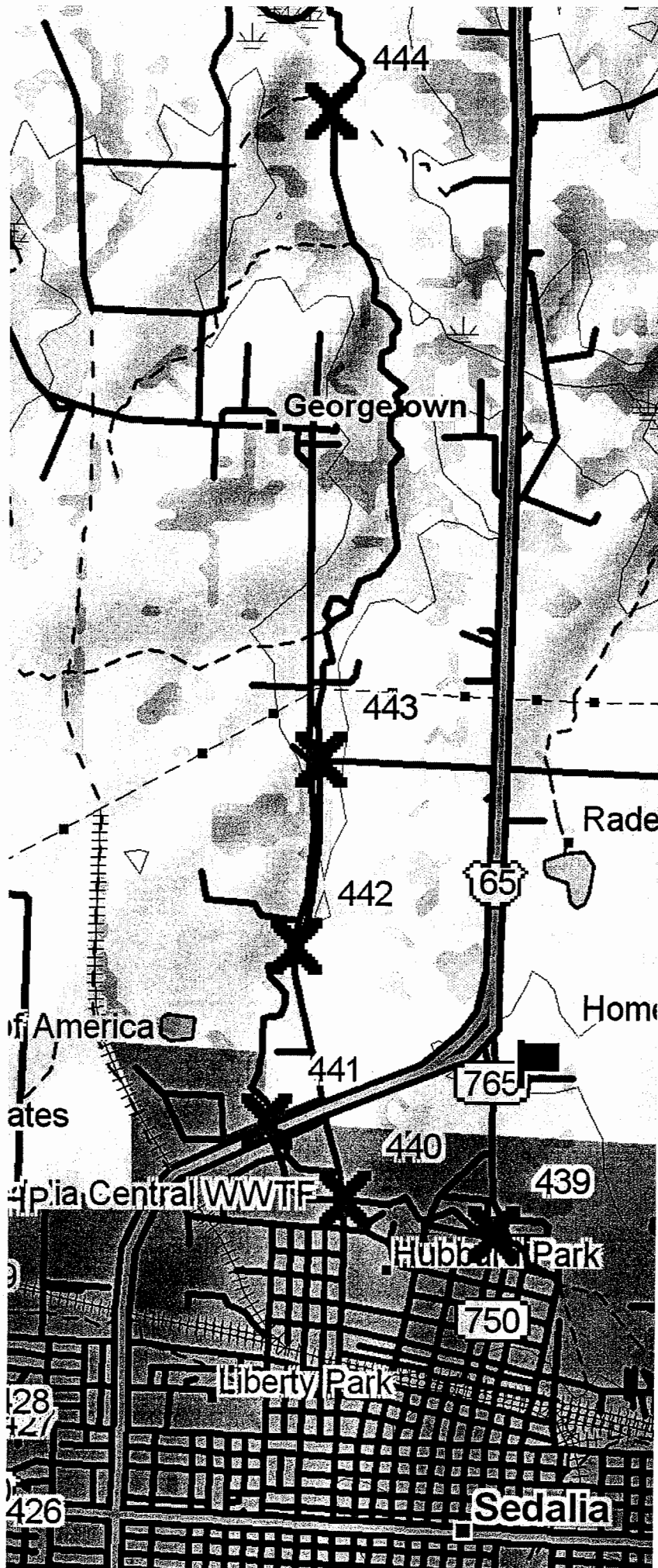
Signed:



Date:

7/13/05

Sewer
Branch



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>444A (0860)</u>	Site Location Description:
Site GPS Coordinates: <u>N 38.74332 W 93.23769</u>	<u>100 m DS at 443</u>
Date & Time: <u>7/10/15</u> <u>950</u>	Facility Name: <u>Homestead Trailer Park</u>
Personnel: <u>CB JB</u>	Permit Number:
Current Weather Conditions: <u>Clear 80°F</u>	Weather Conditions for Past 7 days:
Photo Ids: Upstream: <u>2160</u>	Downstream: <u>2159</u> Other:

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Forest & Agriculture</u>	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions: 0.02, 0.06, 0.10, 0.02, 0.02

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>20m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.04m</u>	Max. Depth (ft): <u>0.10m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>25/m, 25/m, 25/m</u>	

= 0.5 m/s

Downstream View Physical Dimensions: 0.08, 0.00, 0.06, 0.02, 0.08

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>8.2m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.05m</u>	Max. Depth (ft): <u>0.08m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>35/m, 35/m, 35/m</u>	

= 0.33 m/s

Substrate*: (These values should add up to 100%.)

<u>20</u> % Cobble	<u>40</u> % Gravel	<u>20</u> % Sand	<u>10</u> % Silt	<u>10</u> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Slight Algal Growth</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: 7/10/05
 Organization: Felma Tech Position: Environmental Scientist

CED
7/10/05

0860_444_US



0860_444_DS



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>443 (0260)</u>		Site Location Description: <u>1st Crossing on HH East of H</u>	
Site GPS Coordinates: <u>N 38.74234 W 93.23765</u>			
Date & Time: <u>7/10/05</u>		Facility Name: <u>Homestead Trailer Park</u>	
Personnel: <u>CB</u> <u>JB</u>		Permit Number:	
Current Weather Conditions: <u>Clear 80°F</u>		Weather Conditions for Past 7 days:	
Photo Ids: Upstream: <u>2156</u>	Downstream: <u>2157</u>	Other: <u>Fence (2158)</u>	

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Agriculture</u>	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

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CB
7/10/05

Stream Morphology:

Upstream View Physical Dimensions: 0.08, 0.10, 0.12, 0.14, 0.10

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>6.1m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.11m</u>	Max. Depth (ft): <u>0.14m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>35/m, 45/m, 45/m</u>	

Downstream View Physical Dimensions: 0.05m, 0.04, 0.08, 0.12, 0.18 = 0.28 m/s

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>7.6m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.10m</u>	Max. Depth (ft): <u>0.60 0.05 m/s</u>
<input checked="" type="checkbox"/> Pool	Width (ft): <u>7.6m</u>	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>25/m, 25/m, 25/m</u> <u>= 0.5 m/s</u>	

Substrate*: (These values should add up to 100%.)

<u>10</u> % Cobble	<u>50</u> % Gravel	<u>10</u> % Sand	<u>5</u> % Silt	<u>5</u> % Mud/Clay	<u>20</u> % Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Algal Growth Benthic Mats (90% Coverage)</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: 7/10/05
 Organization: Tetra Tech Position: Environmental Scientist

0860_443_US



0860_443_DS



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 442 (0860)	Site Location Description: 1 st Crossing North of 65
Site GPS Coordinates: N 38.73312 W 93.23914	Facility Name: Homestead Trailer Park
Date & Time: 7/10/05 920	Permit Number:
Personnel: CB JB	Weather Conditions for Past 7 days:
Current Weather Conditions: Clear 80°F	
Photo Ids: Upstream: 2153	Downstream: 2152
Other: Fence (2154) Instream Arch (2155)	

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*:

(Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: Agriculture & Forest	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

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CB
07/10/05

Stream Morphology:

Upstream View Physical Dimensions: 0.16, 0.30, 0.22, 0.12, 0.04

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>4.3m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.17m</u>	Max. Depth (ft): <u>0.30m</u>
<input checked="" type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated (ft ³ /sec):	

Downstream View Physical Dimensions: 0.14, 0.18, 0.26, 0.10, 0.08

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>5.3m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.15m</u>	Max. Depth (ft): <u>0.26m</u>
<input checked="" type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated (ft ³ /sec):	

Substrate*: (These values should add up to 100%.)

<u>10</u> % Cobble	<u>30</u> % Gravel	<u>30</u> % Sand	<u>15</u> % Silt	<u>15</u> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Algal Growth 40% coverage (benthic)</u>
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Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: 7/10/05
 Organization: Tetra Tech Position: Environmental Scientist

0860_442



0860_442



0860_442_US



0860_442_DS



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (A separate data sheet must be completed for each site)

Missouri WBID #: <u>441 (0860)</u>	Site Location Description:
Site GPS Coordinates: <u>N38.72383 W93.24067</u>	<u>Rt 65 Crossing</u>
Date & Time: <u>7/10/05 900</u>	Facility Name: <u>Honestead Trailer Park</u>
Personnel: <u>CB JB</u>	Permit Number:
Current Weather Conditions: <u>Clear 80°F</u>	Weather Conditions for Past 7 days:
Photo Ids: Upstream: <u>2150</u> Downstream: <u>2151</u> Other:	

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Sparse Vegetation</u>	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

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CB
07/10/05

Stream Morphology:

Upstream View Physical Dimensions: 0.14, 0.26, 0.24, 0.16, 0.10

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>4.7m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.18m</u>	Max. Depth (ft): <u>0.26m</u>
<input checked="" type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated (ft ³ /sec):	

Downstream View Physical Dimensions: 0.10, 0.16, 0.12, 0.10, 0.06

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>3.8m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.11m</u>	Max. Depth (ft): <u>0.16m</u>
<input checked="" type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated (ft ³ /sec):	

Substrate*: (These values should add up to 100%.)

% Cobble	<u>20</u>	% Gravel	<u>40</u>	% Sand	<u>20</u>	% Silt	<u>20</u>	% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Benthic Algal Growth 40% cover</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>Brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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Signed: [Signature] Date: 7/10/05
 Organization: Fedex Tech Position: Environmental Scientist

Copy attached

0860_441_US



0860_441_DS



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>440 (0860)</u>	Site Location Description:
Site GPS Coordinates: <u>N 39.72070 W 93.23589</u>	<u>Off of #65</u>
Date & Time: <u>7/10/05</u>	Facility Name: <u>Hornhead Trailer Park</u>
Personnel: <u>CB JB</u>	Permit Number:
Current Weather Conditions: <u>Clear 75°F</u>	Weather Conditions for Past 7 days:
Photo Ids: Upstream: <u>2149</u>	Downstream: <u>2148</u> Other:

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Residential</u>	

Evidence of Human Use*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

CB
07/10/05

Stream Morphology:

Upstream View Physical Dimensions: Dry Streambed

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec):	

Downstream View Physical Dimensions: Dry Streambed

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec):	

Substrate*: (These values should add up to 100%.)

<u>10</u> % Cobble	<u>20</u> % Gravel	<u>40</u> % Sand	<u>20</u> % Silt	<u>10</u> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>None</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>NA</u>
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>NA</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>NA</u>
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>NA</u>

Comments: Please attach additional comments (including information from interviews) to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: 7/10/05
 Organization: Tetra Tech Position: Environmental Scientist

0860_440_US



0860_440_DS



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 439 (0860)	Site Location Description:
Site GPS Coordinates: N38.71859 W93.22498	pt crossing on 765 (Ohio St) S of 65
Date & Time: 7/10/05 835	Facility Name: Hemstead Trailer Park
Personnel: CB JB	Permit Number:
Current Weather Conditions: Clear 75°F	Weather Conditions for Past 7 days:
Photo Ids: Upstream: 2147	Downstream: 2146
Other:	

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: Residential Fields	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions: Dry Streambed

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec):	

Downstream View Physical Dimensions: Dry Streambed

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec):	

Substrate*: (These values should add up to 100%.)

<u>20</u> % Cobble	<u>20</u> % Gravel	<u>40</u> % Sand	<u>10</u> % Silt	<u>10</u> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>None</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>NA</u>
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>NA</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>NA</u>
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>NA</u>

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: 7/10/05
 Organization: Tetra Tech Position: Environmental Scientist

0860_439_US



0860_439_DS



Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 4438 (0260)	Site Location Description:
Site GPS Coordinates: N 38.74241 W 93.23775	Crossing on H from Grand Rd.
Date & Time: 7/11/05 1000	Facility Name: Homestead Trailer Park
Personnel: CB JB	Permit Number:
Current Weather Conditions: Partly cloudy 80°F	Weather Conditions for Past 7 days:
Photo Ids: Upstream: 2200	Downstream: 2199
Other: 2200 - FENCE IN STREAMBED	

Uses Observed*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)				

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/country parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Two - Data Sheet B for WBID # 443R ⁽⁰⁸⁶⁰⁾:

Stream Morphology:

Upstream View Physical Dimensions: 0.06, 0.10, 0.14, 0.10, 0.06

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>5.4m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.09m</u>	Max. Depth (ft): <u>0.14m</u>
<input type="checkbox"/> Pool	Width (ft): <u>5.4m/3</u>	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>35/m, 35/m, 35/m</u> <u>= 0.33 m/s</u>		

Downstream View Physical Dimensions: 0.12, 0.12, 0.04, 0.16, 0.04

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>7.1m</u>	Length (ft): <u>20m</u>	Avg. Depth (ft): <u>0.10m</u>	Max. Depth (ft): <u>0.16m</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>55/m, 55/m, 55/m</u> <u>= 0.20 m/s</u>		

Substrate*: (These values should add up to 100%.)

<u>20</u> % Cobble	<u>40</u> % Gravel	<u>10</u> % Sand	<u>5</u> % Silt	<u>5</u> % Mud/Clay	<u>20</u> % Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>Benthic & Floppy Algae 40% cover</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [Signature] Date: 7/11/05
Organization: Tetra Tech Position: Environmental Scientist

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07/11/05

0860_443R_US



0860_443R_DS



0860_443R

